DOCKET NO.: UPN-3832 PATENT APPLICATION

SERIAL NO.: 09/627,775 FILED: JULY 28, 2000

Claim 2 (Amended) A method of inhibiting osteoclastogenesis comprising the step of administering to a patient an amount of an inhibitor effective to inhibit osteoclastogenesis, wherein the inhibitor has the formula:

$$AA_1 \equiv AB_1$$

$$AA_2 \equiv AB_2$$

(I)

wherein:

AC is a peptide of 3-18 amino acid residues which corresponds in primary sequence to a binding loop of a TNF-R superfamily member, and which may optionally contain one or more amino acid substitutions, or an analogue thereof wherein at least one amide linkage is replaced with a substituted amide or an isostere of amide;

 AB_1 is a moiety having a first functional group capable of forming a covalent linkage with one terminus of AC, a second functional group capable of forming a covalent linkage with AB_2 and a third functional group capable of forming a covalent linkage with AA_1 ;

 AB_2 is a moiety having a first functional group capable of forming a covalent linkage with the second terminus of AC, a second functional group capable of forming a covalent linkage with AB_1 and a third functional group capable of forming a covalent linkage with AA_2 ;

 AA_1 is a moiety having hydrophobic properties and a functional group capable of forming a covalent linkage with the third functional group of AB_2 ;

 AA_2 is a moiety having hydrophobic properties and a functional group capable of forming a covalent linkage with the third functional group of AB_2 ;

"=" is a covalent linkage; and

" \equiv " is a covalent linkage.

Claim 18 (Amended) A method of treating patients who have diseases characterized by bone loss comprising the step of administering to said patient an amount of an inhibitor effective to inhibit such bone loss, wherein said inhibitor is a compound having the formula:

DOCKET NO.: UPN-3832 PATENT APPLICATION

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$$AA_1 \equiv AB_1$$

$$AA_2 \equiv AB_2$$

(I) wherein:

AC is a peptide of 3-18 amino acid residues which corresponds in primary sequence to a binding loop of a TNF-R superfamily member, and which may optionally contain one or more amino acid substitutions, or an analogue thereof wherein at least one amide linkage is replaced with a substituted amide or an isostere of amide;

 AB_1 is a moiety having a first functional group capable of forming a covalent linkage with one terminus of AC, a second functional group capable of forming a covalent linkage with AB_2 and a third functional group capable of forming a covalent linkage with AA_1 ;

 AB_2 is a moiety having a first functional group capable of forming a covalent linkage with the second terminus of AC, a second functional group capable of forming a covalent linkage with AB_1 and a third functional group capable of forming a covalent linkage with AA_2 ;

 AA_1 is a moiety having hydrophobic properties and a functional group capable of forming a covalent linkage with the third functional group of AB_1 ;

 AA_2 Is a moiety having hydrophobic properties and a functional group capable of forming a covalent linkage with the third functional group of AB_2 ;

"=" is a covalent linkage; and

" \equiv " is a covalent linkage.

Claim 34 (Amended) A method of inhibiting bone resorption comprising the step of administering to a patient an amount of an inhibitor effective to inhibit bone resorption, wherein said inhibitor has the formula:

DOCKET NO.: UPN-3832 PATENT APPLICATION

SERIAL NO.: 09/627,775 FILED: JULY 28, 2000

$$A A_1 \equiv A B_1$$

$$A A_2 \equiv A B_2$$

(I)

wherein:

AC is a peptide of 3-18 amino acid residues which corresponds in primary sequence to a binding loop of a TNF-R superfamily member, and which may optionally contain one or more amino acid substitutions, or an analogue thereof wherein at least one amide linkage is replaced with a substituted amide or an isostere of amide;

 AB_1 is a moiety having a first functional group capable of forming a covalent linkage with one terminus of AC, a second functional group capable of forming a covalent linkage with AB_2 and a third functional group capable of forming a covalent linkage with AA_1 ;

 AB_2 is a moiety having a first functional group capable of forming a covalent linkage with the second terminus of AC, a second functional group capable of forming a covalent linkage with AB_1 and a third functional group capable of forming a covalent linkage with AA_2 ;

 AA_1 is a moiety having hydrophobic properties and a functional group capable of forming a covalent linkage with the third functional group of AB_2 ;

 AA_2 is a moiety having hydrophobic properties and a functional group capable of forming a covalent linkage with the third functional group of AB_2 ;

"=" is a covalent linkage; and

"≡" is a covalent linkage.

REMARKS

Status of the claims

Claims 1-48 are pending.

Claims 1-48 have been rejected.

Claims 1, 17, and 31-33 have been cancelled without prejudice.